Empirical Study on the Classified Association Strategy in English Vocabulary Learning

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Abstract. Based on the processing hypothesis, this paper tested 80 students (40 persons per group) separately by utilizing self-designed classified association memory material. By analyzing the data with Spss 18.0, the results show that: (1) After the training of classified association memory strategy in class, there is an obviously improvement in students’ vocabulary memory. (2) The difference between concentrated training and scattered training is not significant. (3) Although good students and weak students have different marks of vocabulary learning, the results of t-test showed that the difference between them was not significant.

Introduction

Nowadays, with the booming of all kinds of English examinations, such as CET, BEC, Professional Title English Test, TOEFL, IELTS and the like, the memory of vocabulary becomes essential if students want to pass these exams successfully. And if teachers teach their students some memory strategies during the class, students can grasp the amount of words rapidly at any given time. On account of words memory strategy, this paper will analyze the positive effect of classified association strategies on English vocabulary learning and discuss whether some differences exist between excellent students and poor students using this strategy.

The Relevant Theories and Researches

The Processing Hypothesis (Craik,F.I.M.,&Lockhart,R.S. 1972) means that the stimuli which act on human undergo a series of different levels of analysis from superficial feelings to the deeper, more complex, abstract and semantic processing. Shallow feeling processing involves the physical property of stimuli, while deep processing involves pattern recognition and meaning extraction. This kind of processing inflects its different depths. The deeper the level of processing, the more cognitive and semantic information should be processed. According to the levels of processing hypothesis, after being recognized, a word can be associated with other words and relevant presentation and stories. The processing depth of one stimulus depends on some factors, such as the character of stimulus, the processing time and tasks. For example, semantic approach is superior to phonetic approach during the process of words memorizing. This hypothesis insists that the perdurability of memory traces reflects the depth of processing directly as the by-product of information processing. Associations with deep and elaborate analysis could produce a strong trace and last for a long time. While the weaker memory traces of those information whose analysis is shallow continue for the shorter lengths of time. It shows that the classified association memory strategy is more effective than the method of memorizing the word list.

Most of experimental researches on classified association memory strategies were carried out by free recall. In the course of experiments, the staff gave the word list to subjects and asked them to memorize. And then these subjects were required to recall the words in the list as much as possible in any order. Bousfield(1953) asked the subjects to remember 60 words in a glossary which were divided into four categories: animals, names, professions and vegetables. Each category has 15 words.
Although these words were presented randomly, but participants classified the words of same kind by associating when they recalled. Developed by Craik & Tulving(1975), this study shows that the subjects who accepted word classification guidance before test have a better performance than those without. Obviously, it also shows that the classified association strategy is beneficial for memory. However, the subjects of these researches are native English speakers. This paper will check whether the classified association memory strategy is effective to people who learn English as a second language.

Method

The Feasible Pilot Study

Before formal testing, the staff did a pilot-study to ensure that the subjects had not learned testing words and the formal testing would be developed in full swing. Participants were 60 freshmen.

The testing paper includes 150 different kinds of words. Students were asked to highlight the words they did not know. All words have some semantic connections. They may belong to the same category or industry, but their arrangement is random. This research distributed 60 papers and 58 valid papers are collected. Getting rid of the known words (any word would be removed if anyone of the subjects knew) and meaningless words, the staff chose 50 words which belong to different categories as the memory material after ranking these chosen words randomly.

The Formal Testing

The Subjects. This experiment divided 120 subjects into 3 classes, taking their genders, enrollment scores, placement test scores and the previous testing results into account. Each class has 40 students. Two classes are the experimental classes, while the third is the contrast class.

Training Method. Strategy-training of two experimental classes were implemented by the same teacher. There are two kinds of training: scattered and centralized. Scattered training means that during the first ten minutes of every lesson, teacher should guide students how to make a classified memory according to categories and similar characters in sound, form and meaning. Before asking students to memorize a group of words, the teacher needs to give an example and make a demonstration. This kind of 60 minutes training method would last 3 weeks. On the last day of scattered training, students in the centralized training class would start their memory training. Their training time is also 60 minutes with the same training tasks in scattered training class.

Memory Material. Training material was about 50 different categories of English terms including vegetables, insurance industry, staple goods and other words with similar word forms, similar meanings or same affixes. All words are new to the subjects (it is ensured in pilot-study).

Testing Material. 50 words which are chosen from the memory material and arranged randomly again comprise the training material. The test adopts the way of translation from Chinese to English.

Testing Method. On the last day of this experiment, the staff tested all students of experimental classes in different two classrooms at the same time. The experimenter distributed the glossary of memory material to all subjects who should memorize all vocabularies in the list within 25 minutes by themselves (to make sure that the testing time is not too short or too long, the experimenter had taken an exam to 20 students who are good at English learning and set the proper testing time). When memory time is over, the staff collected the word list and scratch paper, and handed out the testing paper on classified association memory strategy. When students finished their paper, they should return it.

Scoring Method. The subjects would get a point when they remember a word correctly. The total points are 50.
The Result and Discussion
This paper collects and analyzes all kinds of data which were gained from the experimental class and the contrast class by using SPSS 18.0. The results are shown in table 1, table 2, table 3 and table 4.

Classified Association Strategy can Improve the Memory Effect of Students

Table 1. Scores of the Scattered Training Class and the Contrast Class.

<table>
<thead>
<tr>
<th></th>
<th>N=40</th>
<th>mean</th>
<th>sd</th>
<th>maximum</th>
<th>minimum</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>The scattered</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>training class</td>
<td></td>
<td>33.64</td>
<td>12.03</td>
<td>48</td>
<td>10</td>
<td>0.006</td>
</tr>
<tr>
<td>The contrast</td>
<td></td>
<td>24.92</td>
<td>10.38</td>
<td>39</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>training class</td>
<td></td>
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</table>

From table 1 and table 2 we can see that students in scattered training class and centralized training class have an evident higher average marks (the average scores of the scattered training class and centralized training class respectively are 33.64 and 33.57) than those in contrast training class whose average score is 24.92. Examined by individual samples, there is a prominent difference between the contrast class and the two experimental classes (p<0.01; p<0.01). From the test results, people can find out that classified association strategy which will promote students’ marks in memorizing words is prior to the traditional method of memorizing vocabulary. The level of processing hypothesis believes that word’s meaning and form should experience a deep processing process to find out the universities and build up a net of word association, which can promote effects of word memorizing. According to this hypothesis, students will associate the words like email, mordem, hacker, log in, password, web and others after learning the word Internet. Another case in point is that people can grasp words which have similar forms such as working, driving, singing and dancing and then formulate a lexical set. If students are aware of breaking the traditional lexical order and adopting the classified association memory strategy which asks students to classify and associate words by meanings and forms when doing memorizing work, they could remember new words deeply and review old words at the same time. The memorizing effect has a great improvement.

The Effect of Scattered Training and Centralized Training Is Almost the Same

Table 3. Scores of the Scattered Training Class and the Centralized Training Class.

<table>
<thead>
<tr>
<th></th>
<th>N=40</th>
<th>mean</th>
<th>sd</th>
<th>maximum</th>
<th>minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>The scattered</td>
<td></td>
<td>33.64</td>
<td>12.03</td>
<td>48</td>
<td>10</td>
</tr>
<tr>
<td>training class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>The centralized</td>
<td></td>
<td>33.57</td>
<td>10.81</td>
<td>45</td>
<td>8</td>
</tr>
<tr>
<td>training class</td>
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</table>

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Table 3 shows that the average score of the scattered training class (33.64) is higher than that of the centralized class (33.57). It also shows that the effect of scattered training and centralized training is almost the same. Before taking examination, students often buy a very thick vocabulary book to memorize words. As the saying goes, it will help somehow even you start to prepare at the last moment. As long as you adopt a proper memorizing strategy, there is no big difference between centralized memory and scattered memory.

**Top Students and Poor Students would Get Almost the Same Memory Effect Using the Classified Association Strategy**

Both the scattered training class and the centralized training class have 40 students. According to their English college entrance examination scores and pre-test scores, the rates of low-and-middle-scores students and high-scores students are 30% in both two classes. Both the scattered training class and the centralized training class have 12 top students and 12 poor students.

Table 4. Scores of Top Students and Poor Students in the Scattered Training Class and the Centralized Training Class.

<table>
<thead>
<tr>
<th></th>
<th>N=12</th>
<th>mean</th>
<th>sd</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top student</td>
<td>36.58</td>
<td>13.20</td>
<td></td>
<td>1.75</td>
<td>0.078</td>
</tr>
<tr>
<td>Poor student</td>
<td>30.30</td>
<td>10.83</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

From the table 4, people can find out that the average score of top students (36.58) is higher than poor students (30.30). The value of P is 0.078 which means that the difference between top students and poor students are not significant. All students can grasp words successfully as long as they have aware of the classified association memory strategy.

**Conclusion**

By conducting the experiment on the classified association strategy, this paper shows that the classified association memory training can improve students’ memorizing effect; there is no significant difference between scattered training and centralized training; the difference between top students and weak students using classified association strategy is not obvious. In the progress of future vocabulary teaching, teachers can guide their students classify and associate the words they need to master. Of course, not all the memorization of words needs this strategy. It is not realistic for grasping simple words. This paper is just an exploratory study on the classified association memory strategy; further verification will be needed to check the results.

**Acknowledgement**

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**References**

